

In the Claims:

Claims 1 to 11 (Canceled)

12. (Currently amended) A sensor arrangement as a part of a reflection light barrier, said sensor arrangement comprising:

a carrier;

a photodiode arranged on said carrier;

a first light emitting diode arranged on said carrier and adapted to emit a pulsed measuring light beam;

a second light emitting diode arranged on said carrier and adapted to emit a reference light beam that is pulsed offset in time relative to the measuring light beam; and

a light permeable housing arranged to enclose said photodiode, said first light emitting diode and said second light emitting diode;

wherein said second light emitting diode is arranged on said carrier and in said housing such that the reference light beam emitted by said second light emitting diode will be reflected internally by a surface of said housing to be incident onto an upper surface of said ~~photodiode~~.
photodiode; and

wherein said housing, said photodiode, said first light emitting diode and said second light emitting diode are arranged and embodied so that none of the reference light beam emitted by said second light emitting diode will be incident on any lateral side surface of said photodiode.

1 13. (Previously presented) The sensor arrangement in accordance
2 with claim 12, wherein said photodiode is arranged on a
3 first plane of said carrier and said second light emitting
4 diode is arranged on a second plane of said carrier offset
5 from said first plane.

1 14. (Previously presented) The sensor arrangement in accordance
2 with claim 13, wherein said first and second planes are
3 offset with respect to one another at least by a height of
4 said photodiode or by a height of said second light
5 emitting diode.

1 15. (Previously presented) The sensor arrangement in accordance
2 with claim 13, wherein said second plane on which said
3 second light emitting diode is arranged is a higher plane
4 than said first plane on which said photodiode is arranged.

1 16. (Previously presented) The sensor arrangement in accordance
2 with claim 12, wherein said carrier comprises a circuit
3 board.

1 17. (Previously presented) The sensor arrangement in accordance
2 with claim 16, wherein said circuit board (1) is a sandwich
3 board having at least two layers.

- 1 18. (Previously presented) The sensor arrangement in accordance
2 with claim 17, wherein said layers of said carrier board
3 are laminated to one another.
- 1 19. (Previously presented) The sensor arrangement in accordance
2 with claim 12, wherein said carrier consists of a material
3 that is impermeable to light.
- 1 20. (Previously presented) The sensor arrangement in accordance
2 with claim 12, wherein said housing is formed by an
3 encapsulant material that is permeable to light.
- 1 21. (Previously presented) The sensor arrangement in accordance
2 with claim 20, wherein said encapsulant material is an
3 epoxy resin.
- 1 22. (Previously presented) The sensor arrangement in accordance
2 with claim 12, wherein said housing has a chamfered wall in
3 a region of said second light emitting diode.
- 1 23. (Previously presented) The sensor arrangement in accordance
2 with claim 22, wherein said chamfered wall is a facet.
- 1 24. (Previously presented) The sensor arrangement in accordance
2 with claim 22, wherein said chamfered wall extends at a
3 declination angle selected such that the reference light
4 beam emitted from said second light emitting diode will be
5 reflected from said chamfered wall toward said photodiode.

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1 25. (Previously presented) The sensor arrangement in accordance
2 with claim 12, further comprising a lens arranged in front
3 of said first light emitting diode and adapted to focus the
4 measuring light beam.

1 26. (Previously presented) The sensor arrangement in accordance
2 with claim 12, wherein said housing is embodied so that the
3 reference light beam will be reflected internally by a
4 total reflection from said surface of said housing.

1 27. (Previously presented) The sensor arrangement in accordance
2 with claim 12, further comprising a detection unit
3 connected to receive signals from said photodiode and
4 adapted to calculate a portion of ambient light from a
5 difference between a signal generated in said photodiode
6 based on receiving the reference light beam that has been
7 reflected and a signal generated in said photodiode based
8 on receiving the measuring light beam that has been
9 reflected.

1 28. (Currently amended) The sensor arrangement in accordance
2 with claim 12, wherein:

3 said carrier comprises a first carrier layer, and a
4 second carrier layer laminated onto a partial area of said
5 first carrier layer;

6 said second carrier layer has a thickness at least
7 equal to or greater than a thickness of said photodiode;

8 said photodiode is arranged on said first carrier
9 layer at an area not provided with said second carrier
10 layer;

11 said second light emitting diode is arranged on said
12 second carrier layer; and

13 said housing, said photodiode, said first light
14 emitting diode and said second light emitting diode are
15 arranged and embodied ~~so that none of the reference light~~
16 ~~beam emitted by said second light emitting diode will be~~
17 ~~incident on any lateral side surface of said photodiode,~~
18 and so that the measuring light beam emitted by said first
19 light emitting diode will exit out of said housing and can
20 be reflected back to said photodiode from an external
21 object outside of said sensor arrangement.

1 29. (Previously presented) The sensor arrangement in accordance
2 with claim 28, wherein said housing is embodied so that the
3 reference light beam will be reflected internally by a
4 total reflection from said surface of said housing.

[RESPONSE CONTINUES ON NEXT PAGE]

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